

Europäisches Patentamt
European Patent Office
Office européen des brevets



(11) **EP 0 938 169 A3**

(12) **EUROPEAN PATENT APPLICATION**

(88) Date of publication A3:
12.09.2001 Bulletin 2001/37

(51) Int Cl.7: **H01S 3/06**

(43) Date of publication A2:
25.08.1999 Bulletin 1999/34

(21) Application number: **99300950.5**

(22) Date of filing: **09.02.1999**

(84) Designated Contracting States:
**AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU
MC NL PT SE**
Designated Extension States:
AL LT LV MK RO SI

• **Judkins, Justin Boyd**
Scotch Plains, New Jersey 07076 (US)
• **Wysocki, Paul Francis**
Flemington, New Jersey 08822 (US)

(30) Priority: **18.02.1998 US 25465**

(74) Representative:
Watts, Christopher Malcolm Kelway, Dr. et al
Lucent Technologies (UK) Ltd,
5 Mornington Road
Woodford Green Essex, IG8 0TU (GB)

(71) Applicant: **LUCENT TECHNOLOGIES INC.**
Murray Hill, New Jersey 07974-0636 (US)

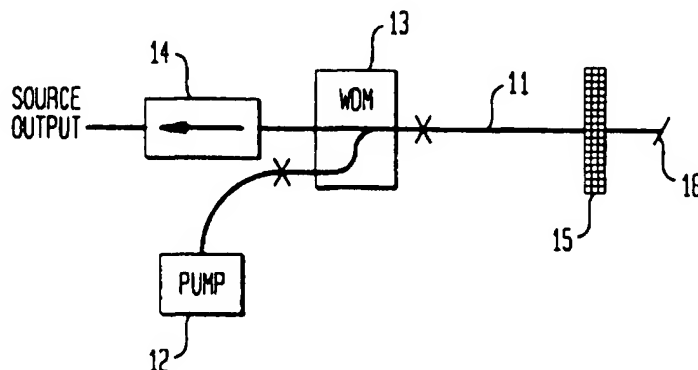
(72) Inventors:
• **DeMarco, John Joseph**
East Brunswick, New Jersey 08816 (US)

(54) **High power multiwavelength light source**

(57) A multi-wavelength light source comprises a length of optical waveguide 11 including an optical amplifier such as a length of rare-earth (e.g. erbium) doped fibre. At one end of the amplifier waveguide 11 is a multi-wavelength reflector 15 such as an array of reflective Bragg gratings, conveniently an array of reflective Bragg gratings

formed in the waveguide. A source of broadband light, preferably consisting of the amplifier waveguide itself, coupled to a pumping source 12 to provide amplified stimulated emission, is directed towards the reflector 15. Multi-wavelength light is reflected by the reflector 15 and passes through the amplifier waveguide 11 a second time.

FIG. 1



EP 0 938 169 A3



European Patent
Office

EUROPEAN SEARCH REPORT

Application Number
EP 99 30 0950

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.CI.8)
X	US 5 268 910 A (HUBER DAVID R) 7 December 1993 (1993-12-07)	1-6	H01S3/06
Y	* figure 4 *	7	
X	EP 0 744 797 A (ALCATEL NV) 27 November 1996 (1996-11-27) * figure 2 *	1-6	
Y	US 5 283 686 A (HUBER DAVID R) 1 February 1994 (1994-02-01) * figure 4 *	7	
The present search report has been drawn up for all claims			TECHNICAL FIELDS SEARCHED (Int.CI.8) H01S
Place of search THE HAGUE		Date of completion of the search 26 July 2001	Examiner Galanti, M
CATEGORY OF CITED DOCUMENTS X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document			

EPO FORM 1503 03.82 (P04C01)

**ANNEX TO THE EUROPEAN SEARCH REPORT
ON EUROPEAN PATENT APPLICATION NO.**

EP 99 30 0950

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report. The members are as contained in the European Patent Office EDP file on
The European Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

26-07-2001

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 5268910 A	07-12-1993	US 5191586 A	02-03-1993
		CA 2072815 A,C	19-01-1993
		DE 69221791 D	02-10-1997
		DE 69221791 T	12-03-1998
		DE 69227407 D	03-12-1998
		DE 69227407 T	20-05-1999
		EP 0523484 A	20-01-1993
		EP 0524558 A	27-01-1993
		HK 1004932 A	11-12-1998
		JP 5218551 A	27-08-1993
		NO 922855 A	19-01-1993
EP 0744797 A	27-11-1996	FR 2734648 A	29-11-1996
		AT 184428 T	15-09-1999
		CA 2177220 A	25-11-1996
		DE 69604122 D	14-10-1999
		DE 69604122 T	30-03-2000
		JP 9015422 A	17-01-1997
US 5283686 A	01-02-1994	US 6094284 A	25-07-2000
		US 5825520 A	20-10-1998

EPO FORM P0459

For more details about this annex : see Official Journal of the European Patent Office, No. 12/82